

Specimens examined :

LOWER CALIFORNIA : Exact locality not given but doubtless near the mouth of the Colorado River, Dr. E. Palmer (type) ; San Felipe Bay, Dr. D. T. MacDougal, February, 1904 and E. A. Goldman, June 20, 1905 (*no. 1164*) ; Los Angeles Bay, Dr. Palmer, 1887 (*no. 572*).

SONORA : Hills near the Gulf of California, C. G. Pringle, August 20, 1884.

The type specimen is preserved in the U. S. National Herbarium.

U. S. NATIONAL MUSEUM.

## NOTES ON SOUTHERN VIOLETS—I

BY HOMER DOLIVER HOUSE

The fact that a mere superficial resemblance between two species in the field can be accentuated in dried specimens to an extent which has prevented their separation cannot be better illustrated than in the case of the following new species remarkably distinct from *Viola pedata* in the field, but losing its characteristics to a large extent when pressed and dried.

### *Viola redunca* sp. nov.

Related to *V. pedata* and *V. ampliata*. Plants solitary, rarely clustered : rootstock short, 6–15 mm. thick : earliest leaves short-petioled, reniform-ovate in outline, lobed or divided into 3–5 blunt, wedge-shaped segments, later leaves with petioles 6–15 cm. long, blades dark-green above, paler beneath, divided into 5–9 linear-lanceolate, acute segments, these usually with one or two teeth near the ends, the outermost segments of the mature blades spreading nearly at right angles to the petiole, margins minutely ciliate : sepals linear-lanceolate, acute or acuminate, strongly truncate at the base, 13–15 mm. long, the lateral ones 3 mm. broad or more : corolla 3–4.5 cm. broad, lavender-blue, the lateral pair of petals slightly smaller than the others, the upper pair turned back to back ; spur of the lower petal 5 mm. long or more, curved strongly upward and projecting between the two upper petals, tinged with purple, flattened laterally but rounded in outline at the end : capsules 8–9 mm. long ; seeds pale-brown

Type collected by the writer at Clemson College, Oconee Co., South Carolina, March 22, 1906 (no. 1720).

Apparently the commonest violet of the southern Piedmont region, and observed in great abundance throughout western South Carolina and adjacent Georgia, extending to an altitude of nearly 5,000 feet in northeastern Georgia.

*Viola redunca* is distinguished from *V. ampliata* Greene by its smaller size, the spur curved straight upward at the end and laterally flattened and the upper pair of petals turned back to back; from *V. pedata* L. (concolorous form) by its remarkable spur and peculiar color of the corolla. My attention was first drawn to the species by the uniform difference in the color of the corolla from that of *Viola pedata* which I have seen about the city of Washington.

### ***Viola glaberrima* (Ging.)**

*V. hastata* var. *glaberrima* Ging. in DC. Prodr. 1: 300. 1824.

*V. tripartita glaberrima* Harper, Bull. Torrey Club 27: 337. 1900.

Type locality: "In sylvis et collibus Carolinae septentrionalis."

*Viola tripartita* frequently has entire leaves which gives the plant the appearance of *V. glaberrima* and especially is this true in dried specimens.

*V. glaberrima* has broader leaves than any entire-leaved forms of *V. tripartita*, and they are less pubescent, deeper and more glossy green, usually glabrous, with stronger, more regularly toothed margins.

In my observations during the past spring and early summer upon many hundreds of individuals, I have not yet found the two species growing intermingled or showing any intermediate forms and it seems that *Viola glaberrima* has as much right to specific recognition as has *V. scabriuscula* of the north.

### ***Viola Walteri* nom. nov.**

*V. canina* Walt. Fl. Car. 219. 1788. Not L.

*V. Muhlenbergii* var. *multicaulis* T. & G. Fl. N. Am. 1: 140. 1838. "Rocks near Kentucky River, *Short!*"

*V. canina* var. *multicaulis* A. Gray, Bot. Gaz. **11** : 292. 1886.

*V. multicaulis* Britton, Mem. Torrey Club **5** : 227. 1894.

Not *V. multicaulis* Jord. Pugill. Pl. Nouv. **15**. 1852.

Michaux, describing *Viola debilis* (Fl. Bor.-Am. **2** : 150. 1803), questionably assigns Walter's *V. canina* to his species, but *V. debilis* is described as having "floribus albis ; longe pedunculatis," and is generally referred to *V. striata* Ait., while Walter's *V. canina* is quite certainly the species under consideration.

#### SOME EXTENSIONS OF RANGE

*Viola rotundifolia* Michx. (to the mountains of North Carolina and Tennessee, *fdc* Small). Very abundant at Tomassee Knob, Mountain Rest and Russells, Oconee Co., South Carolina, and on densely wooded slopes about Rabun Bald in Rabun Co., Georgia.

*Viola canadensis* L. (to North Carolina, *fdc* Small). Occasionally found on damp shady ravine-sides and slopes looking northward about Rabun Bald in northeastern Georgia, and abundant on the north side of Tomassee Knob, Oconee Co., South Carolina.

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#### REVIEWS

##### Knuth's Handbook of Flower Pollination\*

Hermann Müller's, "The Fertilization of Flowers," upon which the present encyclopedic work is based, was published thirty-three years ago, and its English translation, by Thompson, ten years later. That book has been out of print for several years, and subsequent investigations have made desirable, not a new edition of the older publication, but an entirely new work. This was undertaken by Dr. Knuth, whose extensive researches in the subject for over fourteen years peculiarly fitted him for the task.

The work is dedicated to Christian Konrad Sprengel and Dr.

\* Knuth, Dr. Paul. Handbook of Flower Pollination, based upon Hermann Müller's work, "The Fertilization of Flowers by Insects." Translated by J. R. Ainsworth Davis. Vol. I, pp. xix + 382, *f. 1-81*. Oxford: At the Clarendon Press. 1906.